

Resultant Vectors

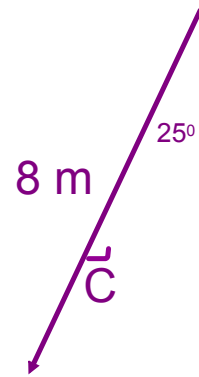
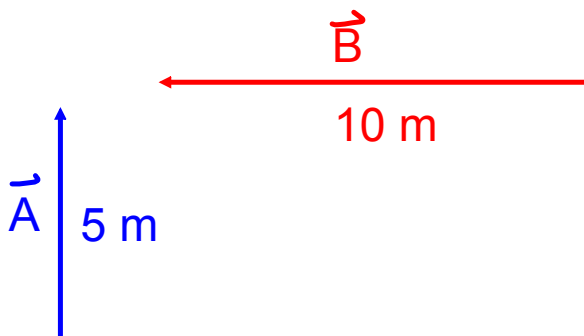
(Vector Addition)

Graphical Method

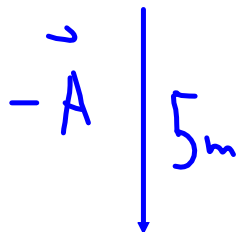
Goal for this class:

1. To add/subtract vectors graphically
2. To find a resultant vector

Scale 1 cm = 1 m

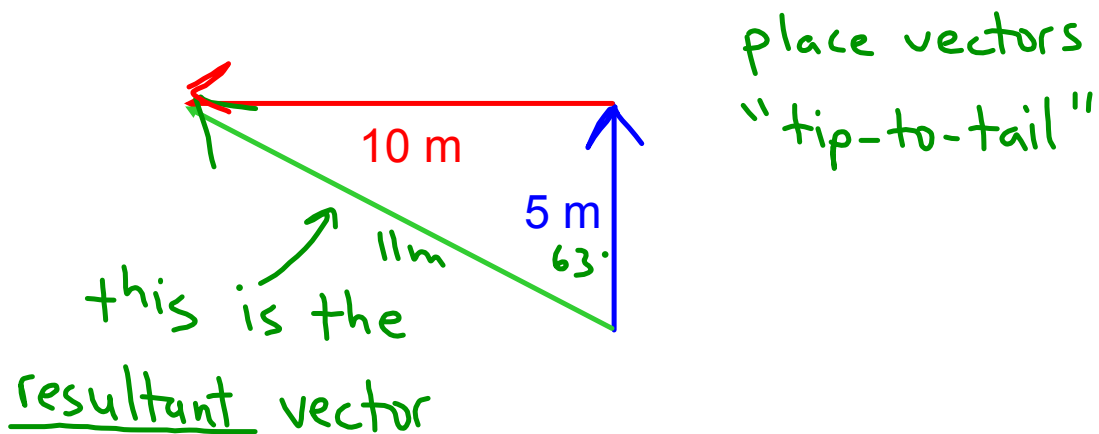


What would $-\vec{A}$ look like?



What might $A + B$ look like?

Scale 1 cm = 1 m



- Measure the length of the arrow
- use protractor for direction

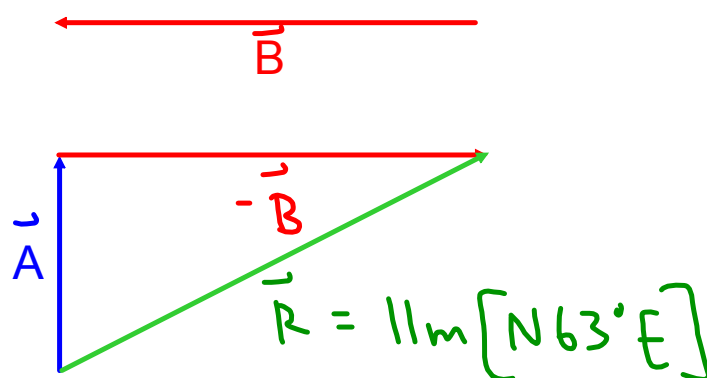
$$\vec{A} + \vec{B} = \vec{R}$$

$$\vec{R} = 11 \text{ m } [N 63^\circ W]$$

What might $\vec{A} - \vec{B}$ look like?

we can only add vectors but
 $\vec{A} - \vec{B} = \vec{A} + (-\vec{B})$

Scale 1 cm = 1 m

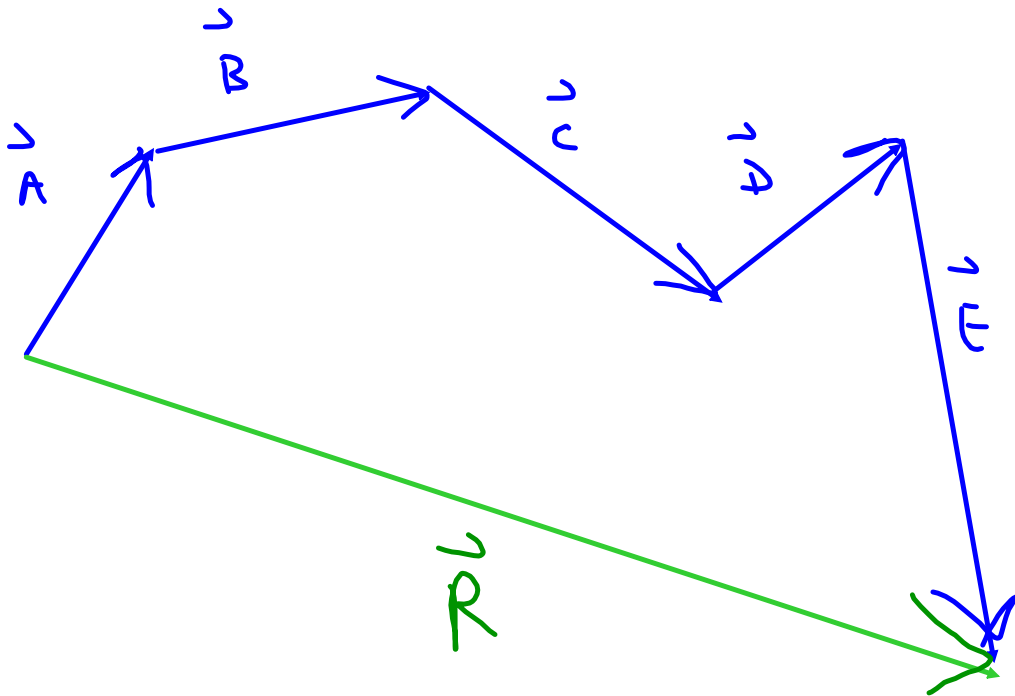


When you add two vectors together, the result is a new vector, called the **resultant**.

We can add vectors, graphically or algebraically.

Graphical method: Tip-to-tail

- place vectors tip-to-tail so that they form a continuous path
- draw new arrow, the **resultant**, from the start to the end of the path



Add 15 m [N15°E] and 20 m [W10°N].